

# Challenges and Opportunities for Cognitive Science in Higher Education

Asli Ozyurek

Director, Multimodal Language Department  
Max Planck Institute for Psycholinguistics  
PI, Donders Institute for Brain Cognition and Behavior  
Radboud University, NL

**Current situation**  
**Masters Cognitive Neuroscience**  
**at Donders Institute (since 2005)**

(coordinated by PIs from 4 different Faculties  
Science; Social Sciences,  
Humanities and Medical Faculty)

*Studying and teaching the cognitive and neural basis for  
diverse brain functions such as perception, action, language,  
attention and memory (including dysfunction)*

Unique in NL for its interdisciplinary breadth

## Current situation

### Masters Cognitive Neuroscience at Donders Institute (since 2005)

#### 4 Tracks

Theme 1: Language and Communication

Theme 2: Perception Action and Decision Making

Theme 3: Development and Life Long Plasticity

Theme 4: Natural Computing and Neurotechnology (neurofunctional architecture of neural networks and cognitive functions; brain-computer coupling)

Common courses : Neuroscience methods, Trends in Cognitive Sciences,  
Math and Stats; Neurophilosophy; Lab Rotations; Professional Development

## Evolving Opportunities and Challenges

### Opportunities

- Need for a more integrated programme with AI and computational methods at all tracks (more integration with AI Department)  
AI Department requesting more courses on language, cognition and learning  
Teaching how natural (cognitive, neuro) and artificial intelligence compare and inform each other  
Teaching how to use AI tools for research and critically
- More emphasis requested on integration of applied topics by the Faculties and funding agencies (human computer/robot interaction; VR/XR; use of (V)LLMs for education; health communication)  
Teaching language & cognition in situated and multimodal contexts more justified and relevant !!!

### Challenges

- Budget cuts at higher education and internationalization is a threat especially for language courses and ones on diversity (crosslinguistic and cultural research; multilingualism; sign language)

More focus on Theory is essential (neither a challenge nor opportunity☺)